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Presidio Light

A Midwinter Solstice Event at the Presidio Chapel of Santa Bárbara

by Rubén G. Mendoza, Ph.D., RPA, California State University Monterey Bay

As an archaeologist with a long-term and abiding interest in both pre-Columbian and Spanish colonial architecture, sacred geometry, and religious iconography, it is perhaps of little surprise that I would turn so wholeheartedly to the study of the missions, presidios, and pueblos of early California (Mendoza and Torres 1994; McLaughlin and Mendoza 2009; Mendoza 2009a, 2009b). Nevertheless, my life experience as a devout Hispanic Catholic did not prepare me for what has clearly emerged as both a scholarly adventure and spiritual exploration of now seemingly endless proportions. Given the fact that architectural historian Robert Mullen (1997: vii) has acknowledged that some 100,000 colonial churches and civic buildings were built in New Spain or Mexico alone in the period spanning 1530 through 1800,¹ I am necessarily faced with a seemingly inexhaustible resource for endlessly pursuing the studies so noted. Of particular import in this regard is my current line of inquiry into the sacred or solar geometry of the missions, chapels, churches, and cathedrals of the Mexican viceregal and or broader colonial Latin American world (Mendoza 2005, 2006). To that end, in the fall of 2003 I was drawn to the colonial era sanctuaries of Santa Barbara by a scholarly hunch, not to mention a desire for communion with speculations I had about the solar geometry of the church and chapel, respectively, of *La Misión de La Señora Bárbara, Virgen y Mártir* and the *Presidio Real de Santa Bárbara*.

Tracking the Illumination

In September of 2003, while preparing to present a talk pertaining to the Mission Solstice Survey before the annual meeting of the California Mission Directors and Curators Conference at Mission Santa Barbara, I hastily entered the main sanctuary of the Mission church and produced an otherwise nondescript *Brunton* compass. After obtaining several azimuth or orientation readings between the main altar tabernacle and the *oculus* or window of the main façade, I was pleasantly surprised to note that the



Main façade of the Presidio Chapel of Santa Bárbara just before dawn on December 23, 2008. All images courtesy of and © Rubén G. Mendoza, 2008.

readings were virtually identical, as corrected for declination, with those of the main sanctuary at Old Mission San Juan Bautista. The latter site, which has been the long term focus of my studies into the archaeology, history, and sacred geometry of early California,

constituted the charter or discovery site for the annual midwinter solstice – or December 21st or 22nd – illumination of the main altar tabernacle. Armed with that fact and the assistance of archaeologist and California missions expert Dr. Robert “Bob” Hoover, I then turned my attention to the adobe chapel at the *Presidio Real de Santa Bárbara* (El Presidio de Santa Bárbara State Historic Park) in the winter of 2004. On a January day in 2008, I repeated the procedures necessary for obtaining azimuth orientation readings such as those undertaken the previous September at Mission Santa Barbara, and once again found that the azimuth for the “reconstructed” Presidio Chapel was identical to both that of missions Santa Bárbara and San Juan Bautista.² Upon recording these new findings, I excitedly announced to Dr. Hoover, who had kindly consented to drive me to the Presidio Chapel despite our then long-delayed luncheon appointment, that the chapel in question constituted yet another midwinter solstice site. Needless to say, Bob was visibly moved by this latest discovery in a host of preliminary findings (i.e., predictions) that spanned a dozen California missions, with visual documentation and ground truth surveys completed by that date for both San Juan Bautista and San Carlos Borromeo. Whereas San Juan Bautista was demonstrated to constitute a midwinter solstice site, San Carlos Borromeo had at that time only recently been found to produce a truly spectacular midsummer solstice illumination of the main altar tabernacle in June of 2003. Nevertheless, I remained somewhat apprehensive about the fact that the azimuth bearings in question were obtained from a reconstructed 18th century chapel, retrofitted in the period after circa 1795



Presidio of Santa Barbara museum diorama depicting the circa 1795-97 retrofit and expansion of the sanctuary and nave of the Royal Presidio Chapel of Santa Bárbara.

in such a way that the sanctuary was extended by one-third to one-half the length of the original Chapel. Such a retrofit would clearly affect the overall height of the illumination, and thereby, the accuracy of my predictions in this instance.³

For a variety of reasons, including illness, fog, rain, and out of state conference commitments, several aborted attempts were made to document the midwinter solstice illumination of the main altar tabernacle of the reconstructed Presidio Chapel at Santa Barbara in the period spanning 2004 through 2007. During that period, Santa Barbara Trust for Historic Preservation archaeologist Michael Imwalle graciously offered his assistance on two of those occasions, but again to no avail, as the aforementioned factors interfered with my ability to make the early morning drive from Salinas, California, to Santa Barbara. In December of 2008, I was once again presented with the opportunity to document the proposed midwinter solstice illumination of the Presidio Chapel at Santa Barbara. As ongoing efforts at *Mission Nuestra Señora de la Soledad* necessitated a site visit for obtaining information pertaining to the Santa Barbara Trust for Historic Preservation's ongoing reconstruction efforts at the *Presidio de Santa Bárbara*, I contacted Michael Imwalle in early December 2008 and requested a meeting for said purpose that would combine a site visit with yet another attempt to document the midwinter solstice illumination of the Presidio Chapel.

Capturing the Illumination

In the early morning hours of December 21st of 2008, and prior to departing my home office in anticipation of the long drive to the Presidio Chapel, I downloaded weather-satellite imagery from the National Oceanic and Atmospheric Administration's website, only to learn that the Santa Barbara



First light as seen on façade of the Presidio Chapel of Santa Bárbara at 7:13 AM on December 23, 2008.

area was obscured by a dense layer of clouds and inclement weather patterns. Believing that yet another attempt to document the midwinter solstice illumination at the Presidio Chapel would again be in vain, I once again delayed my transit to Santa Barbara, and departed from Salinas in the early morning hours of December 23rd. This time, with Michael Imwalle and a host of Santa Barbara Trust for Historic Preservation staffers and visitors present, the midwinter solstice illumination of the main altar tabernacle of the Presidio Chapel was finally documented. After four years of such efforts, the illumination of the main altar and tabernacle of the diminutive “military” chapel was all that more exciting given the implications of the moment. Given that Roman legions once celebrated *Natale Sol Invictus*, or the Birth of the Unconquered Sun, on December 25th of each year (Miles 1912), the illumination of the tabernacle within the Presidio Chapel at Christmas time took on an aura of profound significance and spiritual synchronicity. On that spectacular December day I was necessarily awed by the fact that the target of the illumination constituted the very vessel within which the Holy Host, or Sacrament of the Sun, was housed in anticipation of its transubstantiation into the Sun of Righteousness, the Sun of Justice, and the *Sol Invictus*, or Unconquered Sun. For the soldiers, civilians, and religious of that era, and



First light at 7:18 AM as seen projected on the reconstructed *escudo* or painted shield located adjacent the upper left register of the main altar *reredos* within the sanctuary of the Presidio Chapel of Santa Bárbara.

the Chumash converts of the mission on the hill, the spectacle of a resurgent pageant of light on the shortest day of the year only served to reify faith in the return and resurrection of the Sun of Righteousness, and the apocalyptic beginnings of a new age of faith born in the dawn of the new millennial kingdom.

Documenting the Illumination

The photographs that accompany this article serve to document the illumination of the main altar tabernacle and associated *nicho* of the Presidio Chapel of Santa Bárbara, California, on Tuesday, December 23rd of 2008. Ultimately, it is my contention that the Presidio Chapel illumination was intended to herald the passage of December 25th – the day identified by Roman legions and the Spanish military with *Natale Solles Invictus*, the Birth of the Unconquered Sun. It should be noted, however, that the Presidio Chapel and its altar-piece were reconstructed on the basis of archaeological and historical data, and as such, both the height and exact location of the altar-piece remains an unresolved question, and therefore the tabernacle's original height with respect to the altar very likely differed from the present



Illumination of the reconstructed Presidio Chapel main altar *nicho* containing the *bulto* or statue of Saint Francis located within the *nicho* of the lower register of the reconstructed Presidio Chapel of Santa Bárbara.



Detail from the 7:38 AM illumination of Saint Francis, located within the *nicho* of the lower register of the reconstructed Presidio Chapel of Santa Bárbara.



At 7:46 AM midwinter solstice light bathes the left margin of the main altar tabernacle located within the sanctuary of the Presidio Chapel of Santa Bárbara.



View of the midwinter solstice "meridian" alignment and illumination of the main altar tabernacle within the sanctuary of the Presidio Chapel of Santa Bárbara.



Tabernacle illumination within the sanctuary of the Presidio Chapel of Santa Bárbara shortly after meridian alignment at 7:54 AM on December 23, 2008.

reconstruction. Moreover, a circa 1795-97 retrofit extended the length of the original nave and sanctuary of the Presidio Chapel by roughly one-third to one-half, and this serves in part to account for some of that discrepancy noted in the height of the beam of light that falls upon the reconstituted altar piece. Finally, it should be noted that I have similarly projected a midwinter solstice illumination for the main altar of the nearby Mission church at Santa Bárbara. Given the monumental dimensions of the sanctuary of the Mission church, the tightly bound circular *oculus* that dominates the center of the main façade, and the apparent inspiration of Vitruvian architectural geometry, I remain convinced that the midwinter solstice illumination of the Mission Santa Bárbara sanctuary was an awesome and spectacular sight to behold by the Spanish colonial friars and Hispanicized Indian neophytes of that bygone age. Perhaps someday the Franciscans of Mission Santa Barbara will see fit to reopen the monumental *oculus* anchored within the main façade of the Great Church so as to welcome the return of the Unconquered Sun of the Millennial Kingdom of biblical prophesy. ⚙

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archaeology and conservation of the Royal Presidio Chapel of Monterey. Dr. Mendoza may be contacted via email at ruben_mendoza@csumb.edu.

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Endnotes

¹When North, Central, and South America are added to this mix, the number of Spanish colonial era chapels, churches, monasteries, and civic buildings can be seen to expand exponentially, thereby increasing this number by hundreds of thousands of largely unexplored or fully-documented sites.

²See Fagan 1976 for a discussion regarding the archaeology that anticipated the historically accurate reconstruction of the Presidio Chapel of Santa Barbara.

³During the course of the December 23, 2008 post midwinter solstice event documented here, Michael Imwalle and I discussed the prospects of determining the intended height of the illumination by placing a screen at the location that would have constituted the site of the main altar reredos in the pre-circa 1795, or foreshortened, sanctuary of the Presidio Chapel of Santa Bárbara. I in fact hope to conduct such a test in the year or years to come...so as to better calibrate the intended target, and thereby, original altar and tabernacle height of the pre-1795 structure.